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ZOOLOGY.

A Medusa from Lake Tanganyika.—In the "Annals of Natural History," for the present month, will be found an account of a very interesting zoological novelty. Mr. R. T. Günther describes and figures a remarkable new form of Medusa, or jelly-fish, that occurs in Lake Tanganyika. Until recent years, when the little Limnocodium was found living in the Victoria lily-tank of the Botanic Gardens, Regents Park, it was believed that the Medusæ were nearly exclusively oceanic. It is now shown that the freshwater lake Tanganyika is the home of a peculiar member of this group. The existence of such an organism in Tanganyika was asserted some years ago by the German naturalist, Dr. Boehm, and Professor v. Martens, of Berlin, even went so far as to name it Tanganjicæ, although he had never seen a specimen. Mr. Günther now supplies us with a full description of this singular Hydrozoon, which he refers to a new genus, Limnocnida, adopting the suggestion of v. Martens as to its specific name. *Limnocnida tanganjicæ* is, as might have been anticipated, perfectly different from all the members of the group hitherto known, and probably represents a distinct family, but its exact position cannot be settled positively until the mode of its development has been ascertained. (Nature, April 13, 1893.)

The Air-Bladder and Weberian Ossicles in the Siluroid Fishes.—A study of the physiology of the Weberian ossicles and of the air-bladder in general has been made by Professors T. W. Bridge and A. C. Haddon, for the purpose of discovering the physiological relation of the Weberian mechanism to one of the several functions that have been ascribed to the auditory organ or to the air-bladder. With this object in view they discuss (I) how far the function of the Weberian mechanism is conditioned by the anatomical structure of the air-bladder and auditory organs as well as by the character of the mechanism itself; (II) to which of the known functions of the air-bladder and auditory organ the Weberian ossicles are to be regarded as accessory structures; and (III) the utility of the mechanism to the fish possessing it.

The authors find (I) that from the anatomical structure of the parts the Weberian apparatus is better adapted to register the more forcible distentions or contractions of the anterior chamber of the air-bladder rather than the slight or rapidly recurring vibrations of its lateral walls. (II) The ossicles under consideration are accessory to the hydrostatic function of the air-bladder. (III) The Weberian mechanism is of great functional importance to the fish possessing it, since it confers on them an exceptional capacity for freedom of locomotion in a vertical direction. The possession of this mechanism permits all movements to be made with the maximum economy of muscular effort and tissue metabolism.

In regard to the evolution of the Weberian mechanism the authors reach the following tentative conclusions:

1. The special feature of a fresh-water habitat that has conditioned the development of the Weberian mechanism in the Ostariophyseæ is the occurrence of seasonal or periodic quantitative variations in the food supply, variations to which the Ostariophyseæ, from their herbivorous or omnivorous habits are specially liable.

2. In view of such unfavorable nutritive conditions, the special advantage which is conferred upon the Ostariophyseæ by the possession of the Weberian mechanism is a capacity for executing locomotor movements in any plane, with an almost irreducible minimum of muscular effort and tissue metabolism.

3. If a variable and inconstant food supply is to be regarded as one of the inevitable conditions of a fresh-water existence, and necessitates strict economy in the expenditure of muscular energy, any mechanism which secures this result must be of unquestionable importance to the species, and hence it may be that the Ostariophyseæ owe their dominant position among fresh-water fishes to the possession of the Weberian mechanism.

4. The evolution of the Weberian mechanism has not only conditioned the predominancy of the Ostariophyseæ, but, indirectly, has favored the existence in fresh water of a large number of purely carnivorous fishes, which depend on the former for their food, and therefore may also be regarded as one of the primary causes of the anomalous abundance and diversity of fresh-water piscine life, as compared with the remarkable poverty of all other groups of fresh-water organisms. (Proceeds. Roy. Soc. Vol. LII, 1892).

Age Modifications of the Mucous Lining of the Stomach of Ruminants.—In a study of the Comparative Anatomy of the Stomachs of Ruminants, Mr. J. A. Cordier has discovered the following interesting facts.

The interior of the stomach of a young adult is covered with papillæ closely packed, which are larger in the region which Wilkins calls the "col" of the paunch, than on the rest of the surface. In the stomach of a very old animal a different condition exists. The large papillæ of the "col" are few and far between—two or three times as far apart as in the younger animal, much smaller, twisted once on the base, evidently becoming atrophied. Between these papillæ can be seen traces of many others which have disappeared, leaving their bases only as vestiges, and these are entirely covered by the ordinary epithelium of the stomach.

That these papillæ do not renew themselves is shown by histological sections of the papillæ. In a bison, thirty years of age, the papillæ were almost entirely wanting. An antelope and a ram showed the process of degeneration very clearly.

The second age modification is the appearance of a black coloration more or less intense over the entire surface of the stomach. Observations so far, however, show that this modification takes place in domestic animals only. [Bull. Soc. Zool., T. XVII, 1892.]

Zoological News.—According to C. H. Eigenmann, the development of the Point Loma blind fish (*Typhlogobius californiensis* Steindachner), is a striking example of the degeneration of the eyes. The embryo, before it is hatched, has eyes developed as well as the embryo of any other fish. When the individuals have reached the length of an inch they can still see a short distance, but it is evident that the eye has stopped growing long before this age is reached. In the adult condition the eye has become degenerated and covered with a thick skin, and the fish is totally blind. (Proc. U. S. Natl. Mus., 1892.)

In his Comparative Notes on Swifts and Humming-Birds, Dr. Shufeldt submits 61 important structural differences existing between the *Cypseli* and the *Trochili*. These differences, in the author's opinion, establishes the fact that these two groups, morphologically speaking, are not related. (The Ibis, Jan., 1893).

A new rat, *Perognathus merriamii*, is described by J. A. Allen, from southeastern Texas. It is allied to *P. flavus*, but differs from it in coloration, in the general form of the skull, and in the relative size and proportions of special parts of the skull. The species is based on 17 specimens from Brownsville, Texas. (Bull. Am. Mus. Nat. Hist., 1892.)

Mr. Amos Butler reports that the "Least Shrew," *Blarina parva* (Say), the smallest mammal in the United States, is rather common in the Whitewater Valley in Indiana. (Proc. Indiana Acad. Science, 1891, p. 163, 1893.)

Mr. Witmer Stone notes the occurrence of the genus Neotoma in Pennsylvania. The specimens, which were secured near the top of South Mountain in Cumberland Co., evidently belong to a new species, and are described by Mr. Stone under the name *Neotoma pennsylvanica.* This species is distinguished from *N. floridana* by its larger size, its densely hairy and distinctly bicolored tail, and by certain well-marked cranial characters. (Proceeds. Phila. Acad., 1893.)

ENTOMOLOGY.[1]

North American Cosmetidæ—A recent study of a considerable collection of Cosmetidæ from the Southern States shows that three well-marked species occur in our fauna. This family belongs to the sub-order Mecostethi of Simon or Laniatores of Thorell, of the order Opileonea. Say described one species, Wood another and Sorensen the third. The three species are closely related and all belong to the genus Cynorta. They may be separated by the following key:

Posterior pair of abdominal tubercles very prominent; four or five times as large as anterior pair. . . . . . *C. ornata.*
Posterior pair of abdominal tubercles little larger than anterior pair.
  Dorsum with a distinct yellow Y connected posteriorly with a transverse yellow line. *C. albolineata.*
  Dorsum without or with very little yellow marking. *C. sayi.*

Cynorta ornata is abundant in Florida and probably occurs in the South Atlantic States; *C. albolineata* is found in Louisiana and Mississippi; and *C. sayi* in Texas. An illustrated descriptive synopsis of these species is now in the hands of the American Entomological Society for publication in the *Transactions.*—CLARENCE M. WEED.

An American species of Sabacon.—In 1879, the French Arachnologist, M. Eugene Simon established[2] the genus Sabacon for a very peculiar species (*S. paradoxus*) of the family Ischryopsalidæ—one of the smaller families of the Opileonea. The specimen described was immature and the lateral pores were not distinct. No other species of the genus appear to have since been described.

The genus Sabacon is especially characterized by the peculiar form of the palpi, the joints of which are large and swollen, and the short

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[1] Edited by Prof. C. M. Weed, New Hampshire College, Hanover, N. H.

[2] Arachnides de France, VII, 266.